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12/11/2003

Ichiro Kamimura

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10/12/2010

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EXAMINER

JULES, FRANTZ F

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ICHIRO KAMIMURA, NORIYUKI TSUDA, KENZO  
MATSUMOTO, TORU KAWABATA, MASATO WATANABE,  
TAKASHI YOSHIKAWA, HIROSHI MUKAIYAMA, and RYOKO KUBO

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Appeal 2009-007132  
Application 10/734,948  
Technology Center 3700

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Before JENNIFER D. BAHR, KEN B. BARRETT, and FRED A.  
SILVERBERG, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

## STATEMENT OF THE CASE

Ichiro Kamimura et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-8. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

## THE INVENTION

Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A non-azeotropic refrigerant mixture, comprising carbon dioxide and at least one kind of combustible refrigerant, and having a temperature glide, wherein the temperature glide produces a first temperature range between a beginning temperature and an intermediate temperature in an evaporation process for use as a refrigeration area, and a second temperature range from the intermediate temperature to an ending temperature of the evaporation process for use as a cold storage area.

## THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Radermacher	US 5,092,138	Mar. 3, 1992
Richard	US 5,736,063	Apr. 7, 1998
Karl	US 6,178,761 B1	Jan. 30, 2001
VanderWoude	US 6,631,621 B2	Oct. 14, 2003

The following Examiner's rejections are before us for review:

1. Claims 1-3 are rejected under 35 U.S.C. § 102(b) as being anticipated by Richard;

2. Claims 4, 7/4, and 8/7/4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Radermacher and Richard;
3. Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Karl and Richard;
4. Claims 7/5 and 8/7/5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Karl, Richard, and Radermacher;
5. Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Karl, Richard, and VanderWoude; and
6. Claims 7/6 and 8/7/6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Karl, Richard, VanderWoude, and Radermacher.

#### OPINION

##### *The rejection of claims 1-3 as anticipated by Richard*

Appellants argue claims 1-3 as a group. App. Br. 5-6; *see also id.* at 4 (Appellants stating that all of the claims on appeal stand or fall together as one group). We select claim 1 as the representative claim, and claims 2 and 3 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(vii) (2009).

The Examiner found that Richard discloses the refrigerant composition recited in Appellants' claim 1, and that the composition inherently has a temperature glide<sup>2</sup> that can produce first and second temperature ranges as called for in claim 1. Ans. 3. Appellants do not dispute that Richard discloses the composition, but argue that "Richard does not disclose how to make use of the temperature glide to produce the

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<sup>2</sup> "Temperature glide" refers to the temperature variation across refrigeration equipment, such as a condenser or evaporator, for non-azeotropic mixtures, as opposed to the single condensation or evaporation temperature of a single component fluid. Richard, col. 1, l. 61 – col. 2, l. 9.

‘storage [sic, refrigeration] area’ and the ‘cold storage area.’” App. Br. 5. Appellants appear to contend that Richard’s disclosure of the composition does not equate to a teaching of “a structural design” of a refrigerator based on the temperature glide. *Id.* at 6. In particular, Appellants seem to argue that a reference must disclose a specific arrangement of the refrigeration and cold storage areas based on the temperature glide in order to anticipate. *See* Reply Br. 2.

Appellants’ arguments are not commensurate with the scope of claim 1. The Examiner is correct in interpreting claim 1 as calling for a refrigerant composition having a temperature glide, not the use of that refrigerant. *See* Ans. 8, 9. The claim does not require a refrigerator that uses the refrigerant.

To the extent that Appellants argue that the “wherein” clause is a functional limitation that distinguishes the claimed invention (*see* Reply Br. 2), we do not find this argument persuasive. The Examiner found that Richard’s mixture is identical to Appellants’ composition and inherently possesses the recited temperature glide characteristic. *See* Ans. 3, 10. Where the Examiner has reason to believe that a functional limitation is an inherent characteristic of the prior art, Appellants have the burden to show that the prior art does not possess that characteristic. *See In re Best*, 562 F.2d 1252, 1254-55 (CCPA 1977) (quoting *In re Swinehart*, 439 F.2d 210, 213 (CCPA 1971); *see also In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990) (“when the PTO shows sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.”). Appellants have not offered any persuasive argument or evidence to show that Richard’s refrigerant mixture would not

inherently possess a temperature glide that produces two temperature ranges for use in a refrigeration area and a cold storage area, respectively.

We are not persuaded that the Examiner erred in finding that Richard discloses the refrigerant mixture of Appellants' claim 1. Accordingly, we affirm the rejection of claim 1 and claims 2 and 3, which fall therewith, as anticipated by Richard.

*The obviousness rejections of claims 4-8*

The Examiner rejected claims 4, 7/4, and 8/7/4 as being unpatentable over Radermacher and Richard. Appellants argue these rejected claims as a group. App. Br. 6-8. We select claim 4 as the representative claim, and claims 7/4 and 8/7/4 stand or fall with claim 4.

Claim 4 recites a refrigerating cycle in which specific components are connected by a refrigeration path through which the refrigerant mixture of claim 1 is circulated. The Examiner found that Radermacher teaches the recited refrigeration cycle and the use of a refrigeration mixture, but does not disclose the carbon dioxide refrigerant mixture of claim 1. Ans. 3-4. The Examiner again relies on Richard for the disclosure of the claimed refrigerant mixture. *Id.* at 4. Appellants argue that "Richard does not disclose the temperature glide to produce '*the refrigeration area*' and '*the cold storage area*,'" and argue that Radermacher does not supply this missing feature. App. Br. 7. Similar to the argument presented for the above-discussed anticipation rejection, Appellants appear to argue that the references do not teach or suggest that the refrigeration cycle is designed based on the use of the temperature glide in the refrigeration area and the cold storage area. *See* App. Br. 7; Reply Br. 3.

While claim 4 does recite certain refrigeration components, including “an evaporator” (which is the component that absorbs heat thereby cooling the interior space, *see* Spec. 11:22-24), claim 4 does not require structures in the form of a refrigeration area and a cold storage area. Those two areas are mentioned in composition claim 1, but, as discussed above, Appellants have not persuaded us that the refrigerant mixture of claim 1 is compositionally different than that disclosed by Richard. Similarly, Appellants do not explain what claimed feature structurally distinguishes Appellants’ claimed cycle from the proposed combination of Radermacher’s refrigeration cycle and Richard’s refrigerant. As such, we are not persuaded that the Examiner erred in concluding that the subject matter of claim 4 would have been obvious over Radermacher and Richard, and thus sustain the rejection of claim 4 and of claims 7/4, and 8/7/4, which fall therewith.

The remaining rejections rest on the primary combination of Karl’s refrigerating system and Richard’s refrigerant mixture. Ans. 4-7. Appellants reiterate the argument regarding the purported shortcoming of Richard’s composition disclosure and assert that Karl and the other cited references do not supply the missing feature. App. Br. 8, 9, 11. Appellants do not appear to contend that any structure recited in claims 5-8 distinguishes the claimed refrigerating cycles or devices over the Examiner’s proposed combinations of references, or allege error in the Examiner’s findings in this regard or rationale for combining the references’ teachings. While we acknowledge that claim 7 requires two evaporators that can be operated at different temperatures and thus could conceivably implicate Appellants’ refrigeration area/cold storage area argument, we note that the Examiner made the undisputed finding that Radermacher teaches two

evaporators in series as recited in claim 7. *See* Ans. 5-6, 7; *see also* Radermacher, col. 2, ll. 26-29 (two evaporators to maintain two separate compartments at different temperatures). For the reasons discussed above, Appellants' arguments do not persuade us of error in the rejections of claims 5-8. Therefore, we sustain the rejection of: claim 5 as being unpatentable over Karl and Richard; claims 7/5 and 8/7/5 as being unpatentable over Karl, Richard, and Radermacher; claim 6 as being unpatentable over Karl, Richard, and VanderWoude; and claims 7/6 and 8/7/6 as being unpatentable over Karl, Richard, VanderWoude, and Radermacher.

#### DECISION

The decision of the Examiner to reject claims 1-8 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

#### AFFIRMED

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